

WHAT IS CLAIMED IS:

1 1. A method for applying a silane coating to a surface that is at least
2 partially wettable by water, said method comprising exposing said surface to a vapor-phase
3 dihalodi(C₁-C₃ alkyl)silane, under conditions resulting in the bonding of di(C₁-C₃ alkyl)-
4 silyloxy groups to said surface.

1 2. A method in accordance with claim 1 in which said dihalo-
2 di(C₁-C₃ alkyl)silane is di(C₁-C₃ alkyl)dichlorosilane.

1 3. A method in accordance with claim 1 in which said dihalo-
2 di(C₁-C₃ alkyl)silane is dimethyldichlorosilane.

1 4. A method in accordance with claim 1 in which said surface is a
2 hydrophilic surface.

1 5. A method in accordance with claim 1 in which said surface is a
2 member selected from the group consisting of hydroxyl-terminated silicon, silicon nitride,
3 glass, steel, alumina, oxides of copper, and oxides of gold.

1 6. A method in accordance with claim 1 in which said surface is
2 hydroxyl-terminated polysilicon.

1 7. A method in accordance with claim 1 further comprising exposing said
2 surface to water vapor while exposing said surface to said vapor-phase dihalodi(C₁-C₃ alkyl)-
3 silane.

1 8. A method in accordance with claim 1 in which said exposure to said
2 vapor-phase dihalodi(C₁-C₃ alkyl)silane is performed in a non-oxidizing atmosphere.

1 9. A method in accordance with claim 1 comprising exposing said surface
2 to a gaseous mixture consisting of said dichlorodi(C₁-C₃ alkyl)silane, water vapor and an
3 inert gas.

1 10. A method in accordance with claim 1 comprising exposing said surface
2 to a gaseous mixture consisting of said dichlorodimethylsilane, water vapor and molecular
3 nitrogen.

1 11. A method in accordance with claim 1 in which said vapor-phase
2 dihalodi(C₁-C₃ alkyl)silane is at a partial pressure of from about 0.5 torr to about 5.0 torr.

1 12. A method in accordance with claim 1 in which said dihalo-
2 di(C₁-C₃ alkyl)silane is dichlorodimethylsilane and is at a partial pressure of from about 1.0
3 torr to about 3.0 torr.

1 13. A method in accordance with claim 1 in which said exposure is
2 performed at a total pressure of from about 0.1 torr to about 15 torr.

1 14. A method in accordance with claim 1 in which said exposure is
2 performed at a total pressure of from about 1 torr to about 5 torr.

1 15. A method in accordance with claim 1 in which said exposure is
2 performed at a temperature of from about 0°C to about 85°C.

1 16. A method in accordance with claim 1 in which said exposure is
2 performed at a temperature of from about 15°C to about 50°C.

1 17. A method in accordance with claim 1 in which said exposure is
2 performed for a continuous exposure time of from about 3 minutes to about 30 minutes.

1 18. A method in accordance with claim 1 in which said exposure is
2 performed for a continuous exposure time of from about 10 minutes to about 20 minutes.